Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Rural Health Care	)	**WC Docket No. 02-60**
Support Mechanism	)	
	)	

To: The Commission

COMMENTS OF

Healthcare Anywhere, Inc.

Washington Federal Strategies on behalf of Healthcare Anywhere, Inc., a non-profit entity formed to deliver innovative telemedicine services anywhere they are needed, hereby respectfully submits these Comments in response to the *Notice of Proposed Rule Making ("NPRM")*, released by the Federal Communications Commission ("FCC" or "Commission") on April 19, 2002, in WC Docket No. 02-60. These Comments generally support the FCC's proposals to expand the reach of Rural Health Care Support Mechanisms and set out some examples of how telemedicine will use telecommunications services in the future.

I. STATEMENT OF INTEREST

Healthcare Anywhere, Inc. is a non-profit entity formed in January 2002. Its mission is to promote telemedicine, including mobile telemedicine, by developing and managing projects that deliver healthcare services to underserved populations. The healthcare projects primarily

focus on health screenings that are made more effective by real-time reporting of results to patients who otherwise might not get appropriate follow up care. As Healthcare Anywhere expands its reach, it also expects to work with rural health clinics that need new ways to reach out to their communities, to improve post-surgical follow up, to reduce the costs of care, to allow patients to receive care while at home, as appropriate. The founders of Healthcare Anywhere created this entity to continue work that they undertook using an ad hoc consortium that included Johns Hopkins Medical Institutions, Panamsat, the Navajo Area Indian Health Service, GE Medical Systems, Walter Reed Army Medical Center, Penny Poor Consulting, and Washington Federal Strategies, among others. Healthcare Anywhere is designed to provide the structure for the next phases of a mobile digital mammography program that screens women for breast cancer using telemedicine. The next projects will likely reach out to diabetes patients, to screen immigrant communities for tuberculosis, and to collaborate on other pressing health problems. The focus includes public health programs, especially those that require high-speed telecommunications links to provide high quality radiological and diagnostic services in rural areas.

The Comments below address some of the specific questions that the Commission raised in the *NPRM*, and offer some additional areas for consideration that may help the Commission to bring telecommunications services as well as telemedicine to underserved rural areas. The medical community has a particular interest in the extension of satellite services operating in conjunction with broadband wired and wireless services to underserved areas. This interest stems from the realization that the future of high quality medical care – especially in rural areas - lies in using telemedicine applications to bring doctors, patients, and medical records together. Telemedicine applications have a unique need for high bandwidth because of the urgent need to transmit data intensive medical images with 100% integrity. It is for these reasons that Healthcare Anywhere is participating in this proceeding.

II. DISCUSSION

A. Issues Raised by the Commission in the *NPRM*

1. Internet Access

The Commission seeks comment on whether it should change its support for Internet access necessary for health care providers. Healthcare Anywhere believes that the Commission should provide support for any form of Internet access. Given Healthcare Anywhere's past experiences, Internet access has proven to be a complementary product to the telecommunications services that can be used to move medical information. In fact, it seems that the future may lie with hybrid systems, where a healthcare provider gets broadband access to a major data center, and from there it is able to access the Internet, send medical images to a center of excellence, to retrieve electronically stored medical record information that it cannot afford to store in the rural setting[1], and access a range of other technologies that advance its health care service goals.

The health care providers Healthcare Anywhere has worked with, and hopes to work with, are seeking access to information from places like: the National Library of Medicine at NIH – to use literature that is vital to providing effective care; the Centers for Disease Control and Prevention – to use databanks and other medical information that gives the provider better information about what to look for in patients; and repositories of medical images such as x-rays and pathology images which rural healthcare providers can access electronically to use to identify the problems that they may be seeing in patients. There are clearly additional repositories of information and databanks that would be of great use to rural health providers, but the several listed above offer some specifics on what a rural physician might be looking for.

Time is of the essence in identifying a disease. In some cases, patients may be

[1] With the issuance of new healthcare privacy regulations under the Health Insurance Portability and Accountability Act of 1996, and increasing calls for reduction of medical errors, as well as advances in medical technologies, more medical record information is being stored electronically. The equipment necessary for proper storage, archiving, and retrieval is costly and requires expertise to maintain. Many health care facilities are outsourcing this responsibility to data centers or to other health facilities with more resources. Thus, the need for access to broadband networks is no longer limited to movement from one rural clinic to nearest hospital.

contagious, and it may be wise to quarantine a patient who has such a disease. It is easier to isolate a biological agent if the patient does not need to be moved to another location for diagnosis. With mobile telemedicine, it may be possible to isolate problems more quickly. Of course, under more conventional circumstances, patients are often in a hurry to drive back to their homes or workplaces. If the diagnosis cannot be made relatively quickly, the patient may be gone before information is available to advise him or her. Unlike a well-established doctor/patient relationship in an urban area, where the doctor may have two or three phone numbers with which to reach a patient, in a rural area, if the patient leaves, he or she may not return for months, and the patient may not have a working telephone for the doctor to call with results. Experience is showing that timely response – while the patient is present – is a very important element to successfully providing health care in rural areas.[2] Therefore, the health care provider will be seeking Internet and other telecommunications services that help to provide good diagnoses, with real-time reporting, allowing for proper counseling and follow-up care. The nature of medical data leads to a need for high-speed access, and if Internet and telecommunication services can be combined, there will be economies in the costs of all necessary services.

2. Distance Should Be Irrelevant; Functionality Is the Key

The Commission has stated that it wishes to be technologically neutral in providing support for telecommunications services supporting telemedicine. The needs of the rural health care provider may be very different from some of the needs of an urban health center, while the technologies available to address those needs are far fewer. In rural areas, where there may be hundreds of miles to link a clinic with a town hospital, using distance measurements becomes unnecessarily complex. Part of the point of telemedicine is to make distance irrelevant to the

[2] The consortium working on Mobile Digital Telemammography is drafting a report that touches on this issue; however that draft has not been released to the public. Other support for this concept can be found in *Academic Radiology*, vol. 4, "Report of the Department of Defense, National Cancer Institute, Department of Health and Human Services, Office of Women's Health Workshop on the Mobile Breast Care Center," Bruce J. Hillman, 1997.

provision of care. So, it makes sense for a rural health care provider to look for technologies that are not measured in miles.

Rural health clinics forge alliances with other more complete health facilities for reasons that may have nothing to do with geographic proximity. Again, making distance measurements in the provision of telecom services irrelevant to the decision making. One of the key factors in developing a telemedicine project is: many rural health clinics will forge relationships in-state to avoid medical licensing issues, where a doctor would violate his license by practicing out of state. However, some hospitals or practice groups have physicians who are licensed in several states, and they specialize in providing emergency care and 24-hour coverage for other health facilities. A rural health clinic in Arizona may send the bulk of its telemedicine work to the University of Arizona on a daily basis, but it may seek emergency coverage from a practice in New Mexico. These relationships expand the capabilities of the rural clinic tremendously by using technology and telecommunications services. It seems only natural when a rural health provider is going to invest in telemedicine, that the provider would want to make the most of any investments – from digital imaging to digital microscopes to video conferencing.

A second limiting factor has to do with cost. Not all hospitals have the capacity to support rural telemedicine. A digital mammography machine, as approved by the FDA, may require specially approved review workstations to be used to interpret mammograms. Not every hospital will have such equipment, or be willing to invest in it. Therefore, a rural health provider who has no rural mammography specialist must send digital mammograms to a hospital or other medical center for interpretation, and he or she will have to send the images to a facility with proper equipment. The Rural Health Care Support Mechanism does not take into account these sorts of decision criteria, and Healthcare Anywhere believes it should.

There are dozens of other factors that rural health providers must address in putting a telemedicine program in place. One additional example, some hospitals and medical practices that may be close to rural areas may not have the staff resources to handle extra work from telemedicine. By interviewing some physicians at the University of Virginia, Healthcare

Anywhere learned that some departments in the University's hospital are already understaffed. The hospital is responsible for providing telemedicine support to parts of rural Virginia, but some departments shy away from rural health providers and telemedicine projects because there is no current solution to the staffing problem.

Effective rural health telemedicine projects emerge from situations where these and other factors are reasonably addressed. With the wide range of telecommunications technologies in existence today, telecommunications services should not be a barrier to telemedicine.

Healthcare Anywhere hopes that the Commission will focus on the functionality of the telecommunications services needed for a telemedicine program. One particular area of growth is in mobile telemedicine. Much of what has been done in telemedicine in the past has been done from a fixed facility to another fixed facility with lots of infrastructure at each end. Much of mobile medicine has not involved telemedicine because the technology was not yet sophisticated enough to handle movement of the data volumes involved in telemedicine.[3] Now, the time is ripe for combining the two. A rural health provider can create a mobile unit to bring screening services to rural populations. However, the telecommunications link then will logically be some sort of satellite or wireless link.

Healthcare Anywhere has had the wonderful experience of working with Panamsat. They have been incredibly creative in thinking about ways to create hub-and-spokes networks to link rural clinics and integrate mobile medicine into existing networks using innovative VSAT technology. Panamsat's corporate beneficence has allowed this work to take place, to date, without need for Universal Service Fund support. However, for the project to continue, it will be necessary to seek support. As projects grow, it make sense to take advantage of several aspects of satellite links: health data can be moved in short bursts, therefore, a satellite link can be shared by telemedicine projects in several places in the country. The first clinic sends pathology images from Death Valley, California to UCLA, and then two minutes later the mobile van in

[3] To give a sense of the data volumes being moved: one CT scan may have 100 megabytes worth of images in it, an MRI contains about as much, and a digital mammogram ranges from 64 megabytes to 128 megabytes. Movement of this much data requires broadband throughput.

Arizona sends a four image mammogram to the University of Arizona in Tucson, followed by a rural health clinic in West Virginia sending a digital retina scan of a diabetes patient to a diabetes monitoring service. All these projects can share the same bandwidth, and the satellite ground stations can be moved if there is a need to use them in a different location. This kind of functionality helps to make telemedicine projects in rural America more viable. It may prove viable to have a centralized downlink site that would move the satellite-transmitted images into the Internet to be securely routed to their final destination. This could reduce costs even further while taking advantage of a range of network elements in places where capacity is not a problem. The key to choosing the right telecommunications service is working with a provider whose technology addresses the needs of the telemedicine project.

The geographic flexibility and shared use aspects of satellite transmission, and its ability to be used in a mobile telemedicine environment make it a particularly attractive telecommunications service. There may be situations where a combination of satellite, wireline, and terrestrial wireless communications links may be what is needed to provide really effective telehealth services. Healthcare Anywhere hopes that the Commission's rules will be adapted to allow for the changing needs of rural health providers.

B. Mobile Telemedicine Increases Ability to Further Homeland Defense

Healthcare Anywhere was created as a by-product of a pilot project to provide real-time reporting to rural women who were being screened for breast cancer using digital mammography. The goal is now to take that experience and use it to address other healthcare issues, in rural parts of the US, where there are underserved patients. Some other pressing health needs include ultrasound cardiovascular screenings for diabetic patients, diabetic retinopathy – to help prevent diabetic blindness, and chest imaging to detect tuberculosis. There are also maternal and child health screenings that can be performed digitally, reaching out to patients for whom getting to rural clinics may be difficult.

In the course of developing plans for addressing a wide range of needs, Healthcare

Anywhere has been learning how to efficiently create a mobile medical response vehicle – one that is equipped to address significant diagnostic needs as well as provide emergency care. One of the advantages of having mobile units established is that they can be easily adapted in times of crisis. Computer equipment will already be integrated into the mobile medical facility. Further, with satellite equipment already configured, the van would be usable in any part of the US. In a time of emergency, these units (about the size of an RV) could be flown quickly to the scene of a crisis.

Healthcare Anywhere hopes that the US will never face additional biological attacks or face chemical or radiological attacks. In the event that terrorists choose to use such weapons, it seems wise to be prepared to move the health care workers to the site of attack, isolating those who could be contagious, contaminated or worse. The mobile health vans will be equipped to transmit data, using satellite transmission which may be less vulnerable to attack, to key centers of excellence and to the CDC and NIH, allowing for collaboration by the nation's foremost experts expeditiously. Certainly, not all health care should be delivered on a mobile basis – there are times when a hospital is the best place to seek care. The needs of the population and the cost constraints that we all face require us to use more technology in even more creative ways to deliver quality health care. Mobile telemedicine and other telemedicine applications are vital to ensuring that people in rural America have some chance to access the same quality of care that may be available in urban areas.

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III. CONCLUSION

Healthcare Anywhere urges the FCC to modify its rules to allow for greater use of telecommunications services that are functional in rural settings. Further, it urges the FCC to alter its rules to allow rate comparison with rates in any city in a state. Additionally, it supports the idea of providing funding for Internet access. Finally, it hopes that the Commission will see the benefits of using satellite technology in telemedicine, mobility in telemedicine, and the

applicability of this approach to responding to medical crises and amend its rules to accommodate these applications.

Accordingly, Healthcare Anywhere respectfully requests that the Commission adopt the proposals set forth herein.

Respectfully submitted,

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